

What is claimed is:

1. A method of cleaning an injection mold, comprising the steps of:

opening the mold;

set a dry ice delivery system operating parameters to produce dry ice granules;

set said dry ice delivery system operating parameters to maintain a gas to dry ice ratio;

set said dry ice delivery system operating parameters to maintain a flow rate;

position a nozzle tip of said dry ice delivery system from said surface.

2. The method of cleaning an injection mold of claim 1 further comprising the step of positioning a mold ejection mechanism to expose a surface to be cleaned;

3. The method of cleaning an injection mold of claim 1 wherein said injection mold is mounted in an injection molding machine and wherein said step of opening said mold is performed by stroking a platen of said machine to maximize the daylight between a first and second mold half.

4. The method of cleaning an injection mold of claim 1 further comprising the step of setting said dry ice delivery system operating parameters to produce dry ice granules preferably within the range of 0.005 to 0.040 inches in diameter.

5. The method of cleaning an injection mold of claim 1 further comprising the step of setting said dry ice delivery system operating parameters to maintain a gas to dry ice ratio preferably between 2.0 and 3.5;

6. The method of cleaning an injection mold of claim 1 further comprising the step of setting said dry ice delivery system operating parameters to maintain said gas flow rate preferably between 3 and 50 SCFM;

7. The method of cleaning an injection mold of claim 1, 2, 3, 4, 5, or 6 further comprising the step of positioning a nozzle tip of said dry ice delivery system preferably between 0.5 and 1.5 inches from said surface.

8. The method of cleaning of claim 7 further comprising the steps of:

set a dry ice delivery system operating parameters to produce dry ice granules that are preferably 0.020 inches in diameter;

9. The method of cleaning of claim 7 further comprising the steps of:

set said dry ice delivery system operating parameters to maintain a gas to dry ice ratio that is preferably 3.0;

10. The method of cleaning of claim 7 further comprising the steps of:

set said dry ice delivery system operating parameters to maintain a flow rate that is preferably 25 SCFM;

11. The method of cleaning of claim 7 further comprising the steps of:

position a nozzle tip of said dry ice delivery system that is preferably 1.0 inches from said surface.

12. The method of cleaning of claim 7 wherein said mold is for the production of preforms.

13. A system for cleaning an injection mold comprising:

a dry ice delivery system;

a hand tool;

said dry ice delivery system provides a flow of dry ice granules in a gas suspension to a discharge port;

said hand tool further includes a nozzle;

said nozzle of said hand tool connected to said
discharge port of said dry ice delivery system;
wherein:

said dry ice delivery system operable to produce dry
ice granules that are preferably between 0.005
and 0.040 inches in diameter;

said dry ice delivery system controllable to maintain
a gas to dry ice ratio preferably between 2.0 and
3.5;

said dry ice delivery system controllable to maintain
a flow rate preferably between 3 and 50 SCFM.

14. The cleaning system of claim 13 wherein said nozzle of said
hand tool is preferably between 0.20 and 0.60 inches in
diameter.

15. The cleaning system of claim 13 wherein said nozzle length
of said hand tool is preferably between 2.5 and 12.0 inches.

16. The cleaning system of claim 5 wherein said nozzle of said
hand tool is preferably 0.40 inches in diameter.

17. The cleaning system of claim 16 wherein said nozzle length
of said hand tool is preferably 6.0 inches.

18. The cleaning system of claim 17 wherein said hand tool
includes a pistol grip.

19. The cleaning system of claim 18 wherein the angular
inclination of said nozzle to said pistol grip is
incrementally adjustable.

20. The cleaning system of claim 19 wherein said hand tool
includes at least one light positioned to cast light in the
direction of the nozzle discharge.

21. The cleaning system of claim 20 wherein said at least one
light is a light emitting diode.

22. The cleaning system of claim 21 wherein said hand tool includes a valve to control said gas pressure and hence said flow rate.

23. The cleaning system of claim 22 wherein said mold is for the production of preforms.

10

09/04/2004 10:10